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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,885	12/11/2001	Franz Forster	964-011861	2379

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EXAMINER
AVERY, BRIDGET D

ART UNIT	PAPER NUMBER
3618	

DATE MAILED: 04/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/014,885	FORSTER, FRANZ
	Examiner	Art Unit
	Bridget Avery	3618

-- *The MAILING DATE of this communication appears on the cover sheet with th correspondence address* --

Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-13 and 19-24* is/are rejected.

7)☒ Claim(s) *8 and 14-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 6, 7, 19, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Priddy, Jr., deceased et al. (US Patent 4,133,403).

Priddy, Jr., et al. teaches a drive device for a vehicle, the drive device including: a traction drive system having a drive axle (55); and a hydraulic work system having at least one electric motor (13, 17) and at least one pump (59) driven by the electric motor (13, 17), where at least one of the electric motor (13, 17) and the pump (59) are integrated into the drive axle (55) or are located directly on the drive axle (55). The drive axle (55) has two traction motors (35, 39). The traction motors (35, 38) are located on the ends of the drive axle (55) and at least one of the electric motor (13, 17) and the pump (59) are located axially between the traction motors (35, 39). The traction motors (35, 39) are hydraulic motors having secondary regulation systems (43). An installed delivery capacity of the pump (59) is designed to deliver a volume of fluid required by the hydraulic work system. The drive axle (55) includes at least one traction motor (35, 39), where at least one of the electric motor (13, 17) of the hydraulic work system and the traction motor (35, 39) of the traction drive system is an oil-cooled

electric motor (13,17) and is connected with an oil circuit (inherent) of the hydraulic work system. An oil tank (57) connected to the hydraulic work system and integrated into the drive axle (55) or located immediately next to the drive axle (55) as shown in Figure 1. Priddy, Jr., et al. also anticipated the use of drive device on a fork lift truck (note teaching of "use in propelling any wheeled vehicle in column 2, lines 1-3) powered by an electric storage battery (as stated in column 1, lines 48-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 4, 5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Priddy, Jr., et al. ('403).

Priddy, Jr., et al. teaches the features described above including the use of a pair of hydraulic motors (35, 39) and a pair of electric motors (13, 17). The device including a reducing transmission (29, 31) installed downstream of each electric motor. The reducing transmissions are planetary gear trains.

Priddy, Jr., et al. lacks the exact teaching of the traction motors being electric motors.

Based on the teachings of Priddy, Jr., et al., it would have been obvious to one having ordinary skill in the art, at the time the invention was made to use electric motors

as the traction motors to promote energy efficiency and to provide means of fully charging the battery when the traction motors are not in use.

3. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Priddy, Jr., et al. ('403).

Priddy, Jr., et al. teaches the features described above including the use of a pair of hydraulic motors (35, 39) and a pair of electric motors (13, 17).

Priddy, Jr., et al. lacks the teaching of using a single traction motor.

However, based on the teachings of Priddy, Jr., et al., it would have been obvious to one having ordinary skill in the art, at the time the invention was made to use a single traction motor, instead of a pair, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Priddy, Jr., deceased et al. ('403) in view of Braschler (US Patent 5,289,905).

Priddy, Jr., deceased et al. lacks the teaching of an axle housing substantially closed on all sides.

Braschler teaches an axle housing (19) substantially closed on all sides.

Based on the teachings of Braschler, it would have been obvious to one having ordinary skill in the art, at the time the invention was made to modify the device of

Priddy, Jr., et al. to include a substantially closed axle housing to confine the electric wheel drive components therein and thereby preventing damage to wheel motors and pump.

5. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Priddy, Jr., deceased et al. ('403) and Braschler ('905) and further in view of McCoy (US Patent 4,570,741).

The combination of Priddy, Jr. et al. and Braschler teach the features described above.

The combination of Priddy, Jr., deceased et al. and Braschler lack the teaching of a motor control fastened to the axle housing

McCoy teaches a mulit-wheel drive system including a motor control (60) and a valve control (65, 66) installed on pump. See column 2, lines 36-68.

Based on the teachings of McCoy, it would have been obvious to one having ordinary skill in the art, at the time the invention was made to modify the combination of Priddy, Jr. et al. and Braschler to include a motor control to regulate operation of the motor for various operating conditions.

6. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Priddy, Jr., deceased et al. ('403) in view of McCoy (US Patent 4,570,741).

Priddy, Jr., deceased et al. lacks the teaching of a motor control fastened to the axle housing and a valve control installed on the pump.

McCoy teaches a mulit-wheel drive system including a valve control (65, 66) installed on pump. See column 2, lines 36-68.

Based on the teachings of McCoy, it would have been obvious to one having ordinary skill in the art, at the time the invention was made to modify the device of Priddy, Jr., et al. to include a valve control to regulate the flow of pressurized fluid and to reduce build up.

Allowable Subject Matter

7. Claims 8 and 14-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gazyakan et al. shows an electrical individual wheel drive with several motors.

Zetterstrom shows a vehicle wheel suspension arrangement.

Teal et al. shows a drive and steer vehicle.

Lee et al. shows an omnibus.

Wakuta et al. shows a lubricating device for a vehicle motor.

Wakuta et al. shows an electric motorized wheel unit with integral motorized cooling oil pump.

Kawamoto et al. shows a motor driving device provided with decelerator and electric vehicle.

Jones et al. shows a power assisted steering for vehicles.

Iijima et al. shows an electric wheel drive.

Anderson et al. shows a drive and brake assembly.

Shea shows a vehicle having auxiliary drive mechanism.

Ganoung shows a power train and method for achieving low exhaust emission and high fuel economy operation of a combustion engine.

Rockwell et al. shows an electric powered wheel.

Keene et al. shows a traction mechanism actuated pressure source.

Forster shows an automotive vehicle with hydrostatic drive.

9. Any inquiry concerning this communication should be directed to Bridget Avery at telephone number 703-308-2086.

Avery

April 7, 2003

BRIAN L. JOHNSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

4/7/03